

CLAIMS:

1. A method of controlling memory usage in a portable streaming device, said device comprising at least one memory, at least one processing unit, and at least one storage device being operatively connected with said memory under control of said processing unit, said method comprising the steps of

5 adaptively maximizing the size of a disk scheduler buffer memory within said memory in said portable streaming device by

continuously allocating available free memory in said portable streaming device,

10 designating and using at least a portion of said allocated free memory as disk scheduler buffer memory.

2. A method according to claim 1, whereby the step of maximising the disk scheduler buffer size comprises enhancing the total amount of available disk scheduler buffer memory in said portable streaming device in that allocated free memory is used as disk scheduler buffer memory in combination with existing disk scheduler buffer memory in said portable streaming device.

3. A method according to claim 1 or 2 whereby individual buffer sizes are designated within the disk scheduler buffer memory to individual streams and buffer memory sizes depend on the streams bit-rate.

4. A method according to claim 1 whereby the step of adaptively maximising the size of a disk scheduler buffer memory comprises the step of continuously arranging the total memory in the portable streaming device in subsections comprising

25 a first memory section being a fixed part entirely reserved to a disk scheduler as buffer memory,

a second memory section being a variable part used by the disk scheduler as further buffer memory,

a third memory section being used by all applications of the portable streaming device, except the scheduler, as well as by an operating system OS, and
a fourth memory section in between the second section and the third section, being a safety margin, whereby

5 the third memory section increases or decreases by allocating memory from respectively to the fourth memory section, and

the second memory section increases or decreases by allocating memory from respectively to the fourth memory section,

10 5. A method according to claim 4, whereby at least one of said four memory sections has a memory size equal to zero.

6. A method according to claims 4 or 5, further comprising a continuous memory pool management comprising the steps of

15 increasing and/or decreasing of the second and/or the third memory section depending on memory requirements of said applications and said OS, and
allocating at least a part of the available memory of the fourth memory section to said second memory section.

20 7. A method according to claim 6, whereby the scheduler buffer comprising the first memory section and the second memory section is arranged as a queue.

8. A method according to claim 6, whereby the continuous memory pool management further comprises the step of

25 tracking memory usage over time, and
controlling the size of said fourth memory section based on memory usage statistics based on said tracking of memory usage.

9. A method according to claim 8, whereby said usage statistics is stored persistently, preferably in a file system.

30 10. A method according to any of claims 4 to 8, whereby the first, second, third or fourth memory section are non-contiguous memory sections of said portable streaming device.

11. A portable streaming device comprising memory, at least one processing unit, and a storage device being operatively connected with said memory under control of said processing unit, whereby

5 said processing unit adaptively maximises the size of a disk scheduler buffer memory within said memory in said portable streaming device.

12. A portable streaming device according to claim 11, whereby said storage device is an optical disk drive.

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13. A portable streaming device according to claim 11, whereby said storage device is a hard-disk-based disk drive.

14. A portable streaming device according to claim 11, whereby said memory
15 comprises non-volatile solid state memory not suffering from hot spots.

15. A portable streaming device according to claim 14, whereby said memory comprises magnetoresistive random access memory.

20 16. A computer readable medium having embodied thereon a computer program for processing by a processing unit, the computer program comprising:

16 a code segment for adaptively maximising the size of a disk scheduler buffer memory within memory of a portable streaming device.

25 17. Use of a portable streaming device according to claim 11.

18. Use of a method according to claim 1.